

REMARKS

The Office Action of August 18, 2011, has been carefully reviewed, and in view of the above amendments and the following remarks, reconsideration and allowance of the pending claims are respectfully requested.

As set forth above, claim 1 has been amended to include the features of claims 10 and 11, and claims 10 and 11 have been canceled. In addition, withdrawn claims 55-60, 83-88 and 119-138 have been canceled.

In the above Office Action, Claims 1-2, 10-14, 17-19, 21, 33-37, 41-43, 61-66, 75-76 and 78 stand rejected under 35 USC 103 as being unpatentable over Damadian '490 in view of Eckels et al.. Claims 1-2, 5-8, 10-22, 24-30, 32-54, 61-82, 89-118 and 139-151 stand rejected under 35 USC 103 as being unpatentable over Damadian '490, '165, and 574, Eckels and Carter. For at least the following reasons, Applicants respectfully traverse these rejections.

With reference to Figure 3 from the present application, the table supporting frame 4 is supported, in a slidable manner parallel to the longitudinal axis of the table 3, by the magnetic structure and particularly by the yoke 102. The table can rotate around its central longitudinal axis as indicated by arrow R2. The magnetic structure 2 (including at least the yoke 102 and also possibly the poles 302) rotate around an axis which is perpendicular to the longitudinal axis of the table. Thus, the table 3 and the magnetic structure 2 can both rotate **together** around an horizontal axis

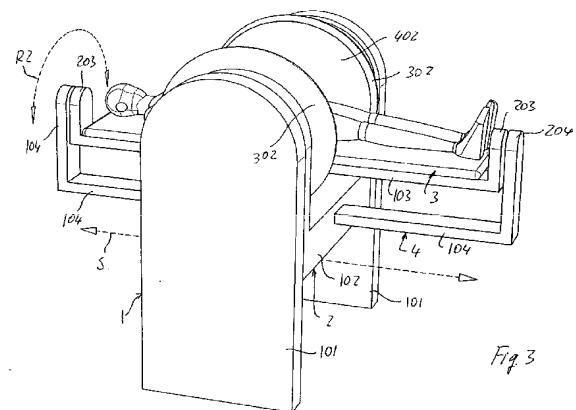


Fig. 3

perpendicular to the poles 302 and to the longitudinal axis of the table. See,

Figures 3-5.

The Examiner indicates that "[I]n response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the bed supported by the magnet) are not cited in the rejected claim(s).)" *Office Action of August 18, 2011, Page 7.* As set forth above, claim 1 is directed to a magnetic resonance imaging apparatus comprising, *inter alia*, a patient positioning table which is slidably connected to a table supporting frame between the two poles; the table supporting frame being supported by the magnetic structure. Hence, Applicants contend that since the table supporting frame is supported by the magnetic structure and the patient positioning table is connected to the table supporting frame, the patient positioning table is thus also supported by the magnetic structure.

In order to further emphasize that the patient bed is supported by the magnetic structure, claim 1 has been amended to include claims 10 and 11. Applicants respectfully submit that once the poles and the yoke (the magnetic structure) are able to rotate around a common axis of rotation, a patient bed (positioning table) supported by the yoke can be moved in different orientations due to the rotation of the magnetic structure.

Thus, the claimed invention allows the following important advantages, given by the fact that a rotatable magnetic structure supporting a patient bed is provided:

- a reduced space between the poles since no introduction of patient supporting devices between the poles or a static patient supporting structure is requested; and

- a concurrent rotation of the magnet and the patient bed maintains unchanged the spatial relations between the magnetic field and the patient bed.

In maintaining the above rejections, Applicants respectfully contend that the Examiner fails to understand that a patient bed supported by a magnet, and in particular by the yoke of an open magnetic structure with vertical poles, which magnetic structure is rotatable together with the patient bed, is not disclosed by the cited prior art, nor is it suggested in any way.

The combination of Damadian '490 and Eckels do not lead to the claimed invention since in both documents the yoke is not supported in a rotatable way by the magnetic structure, the yoke having two opposite free ends hinged around a common axis of rotation.

With respect to claims 10 and 11 the examiner states that Damadian et al. '490 can be combined with Damadian et al. (US 6,023,165) where a patient table rotatable about its longitudinal axis can be seen in Fig. 16, so that the subject matter disclosed is substantially as claimed except for a simple design choice of the shape of the elements.

Regarding dependent claim 10 which is now incorporated into claim 1, a table supporting frame formed by an elongated element slidably engaged with the central branch of the U-shaped magnetic yoke cannot be recognized by any part of the Damadian et al. '490 reference. Regarding dependent claim 11 which is also now incorporated into claim 1, Fig. 3 of the present application clearly shows that the U-shape of the table supporting frame is definitely not just a design choice -- but has an important functional role as well. In fact if the patient table was simply rotatable about its longitudinal axis, a position like that illustrated in Fig. 10 would be possible

only in a larger assembly, since the patient table would be substantially in the center of the patient receiving space, and a major distance between the magnets should be provided in order to have enough space for the body. Furthermore, the U shape guarantees that the longitudinal central axis of a body remains substantially coincident with the rotational axis, so that the imaging volume remains substantially the same. This aspect avoids the need to create the desired homogeneity conditions in different regions of the patient space from time to time for different scanning positions.

The Examiner's position is that it is obvious to one of ordinary skill in the art to integrate the magnetic structure and the table supporting frame since combining elements is well within the skill level of one of ordinary skill in the art. Applicants respectfully disagree as the cited prior art teaches completely away from this concept, since there is not a single one of the cited references that suggests anything other than having completely separate bearing structures for the bed and for the magnet or the poles when the patient has to be tilted around at least one axis. The cited references also lack any suggestion to integrate the table and the magnet.

More particularly, the prior art documents only suggest a patient table completely separated from the MRI apparatus and a patient table and MRI apparatus which do not even have an indirect link or integration of their displacements which can generate a rotation of the magnet or of the poles corresponding to a rotation of the patient table when the table is rotated or vice versa. Hence, current existing structures are very different from the claimed one. The magnet is a closed one, i.e. having a tubular or annular shape and the patient has to be inserted in the magnet by an axial displacement from a position out of the magnet to a position in which at

least one part of the body is inside the gantry of the magnet. The bed is not supported by the magnet but by a pedestal which is axially beside the magnet and which has rails or guides oriented in the axial direction of the magnet on which a bed is slidable. Further, the current commercially available MRI systems described in Applicants' previous response of June 3, 2011, were cited to illustrate the difficulties in obtaining a rotatable magnet structure supporting a patient bed since the dimensions of the magnets are large. The Examiner will note that in the illustrated structures, the bed is not supported by the yoke of the magnetic structure as in the claimed invention, but by a pedestal which is axially beside the magnet and which has rails or guides oriented in the axial direction of the magnet on which a bed is slidable.

For at least the above reason, Applicants submit that the claims are not unpatentable over Damadian '490 in view of Eckels et al. or over Damadian '490, '165, and 574, Eckels and Carter.

The dependent claims define additional distinguishing aspects associated with the claimed invention. Since these dependent claims depend from an allowable independent claim, a detailed discussion of the additional distinguishing features recited in these dependent claims is not set forth at this time.

CONCLUSION

In view of the above amendments and remarks, Applicants respectfully submit that the claims of the present application are now in condition for allowance, and an early indication of the same is earnestly solicited.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference would be helpful in resolving any remaining issues pertaining to this application; the Examiner is kindly invited to call the undersigned counsel for Applicants regarding the same.

Respectfully submitted,
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